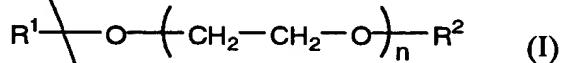


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WHAT IS CLAIMED IS

1. A W/O/W type oil adjuvant vaccine comprising an outer aqueous phase comprising 0.5 - 20 wt% of a polyethylene glycol derivative having a molecular weight of 400 - 20,000, which is represented by the following formula (I)



wherein  $R^1$  and  $R^2$  may be the same or different and each is a hydrogen atom or alkyl having 1 to 4 carbon atoms and  $n$  is a polymerization degree, and an inner aqueous phase comprising a biologically acceptable and effective amount of an antigen.

2. The oil adjuvant vaccine of claim 1, wherein the polyethylene glycol derivative of the formula (I) has a molecular weight of 1,000 - 10,000.

3. The oil adjuvant vaccine of claim 1, wherein the outer aqueous phase comprises 1 - 10 wt% of the polyethylene glycol derivative of the formula (I).

4. The oil adjuvant vaccine of claim 1, which is a W/O/W type oil adjuvant vaccine prepared by the steps of

(a) preparing a W/O emulsion comprising an oil component (A) which becomes liquid at room temperature, an emulsifier (B) and an

25 aqueous component (C) comprising a biologically acceptable and effective amount of an antigen, and

(b) dispersing or emulsifying the W/O emulsion in a liquid comprising an emulsifier (D) and an aqueous component (E),

wherein the liquid comprises 0.5 - 20 wt% of a polyethylene glycol

30 derivative having a molecular weight of 400 - 20,000, which is represented by the formula (I).

5. The oil adjuvant vaccine of claim 1, which is a W/O/W type oil adjuvant vaccine prepared by the steps of

35 (a) preparing a W/O emulsion comprising an oil component (A) which becomes liquid at room temperature, an emulsifier (B) and an

aqueous component (C) comprising a biologically acceptable and effective amount of an antigen,

(b) dispersing or emulsifying the W/O emulsion in a liquid comprising an emulsifier (D) and an aqueous component (E), and

5 (c) adding a polyethylene glycol derivative having a molecular weight of 400 - 20,000, which is represented by the formula (I), to the outer aqueous phase to a concentration of 0.5 - 20 wt%.

10 *Sub A1* 1. The oil adjuvant vaccine of claim 4 or claim 5, wherein the oil component (A), which becomes liquid at room temperature, comprises a fatty acid ester or squalene or a fatty acid ester and squalene in a proportion of not less than 20 wt% of an oil phase.

15 2. The oil adjuvant vaccine of claim 4 or claim 5, wherein the emulsifier (B) has an HLB of less than 10.

20 3. The oil adjuvant vaccine of claim 7, wherein the emulsifier (B) comprises at least one member selected from the group consisting of a partial ester of polyhydric alcohol and a fatty acid, and a non-ionic surfactant having a polyoxyethylene chain.

25 *Sub A2* 4. The oil adjuvant vaccine of claim 4 or claim 5, wherein the emulsifier (D) has an HLB of not less than 10.

5. The oil adjuvant vaccine of claim 9, wherein the emulsifier (D) comprises a non-ionic surfactant having a polyoxyethylene chain.

*Add A3*